

REMARKS

Applicant acknowledges with appreciation the courtesies extended by Examiner Prouty to Applicant's attorney, Lara A. Northrop, during a telephone interview on August 6, 2004.

Claims 1-3, 5 and 8-14 are pending in the application.

Claim 1 has been amended to recite a combination, comprising an article of manufacture, and a bioluminescent fluorescent protein, whereby the combination is a novelty item. Basis for the amended claim language can be found in the specification, for example, at page 17, lines 24-26. Accordingly, no issue of new matter is raised by the present amendment.

Claims 1-3, 5 and 8-14 presently stand rejected under the judicially created doctrine of obviousness-type double patenting over claims 1, 6, 7, 10 and 16-20 of U.S. Patent No. 6,113,886. A copy of the Terminal Disclaimer filed September 17, 2003, a copy of the postcard date stamped from the U.S. Patent and Trademark Office showing the submission of the Terminal Disclaimer sheet, and a copy of the Fee Transmittal sheet showing the previous payment for the Terminal Disclaimer filed September 17, 2003 are enclosed. Accordingly, no new fees are required.

Claims 1-3, 5, 8, 10 and 12-14 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Halbritter '631 in view of Prasher et al. According to the Office Action, Halbritter '631 discloses bubble making solutions comprising a chemical chemiluminescent generating system, while Prasher et al. discloses a green-fluorescent protein. Applicant respectfully traverses this rejection.

Bioluminescent fluorescent proteins are distinct from chemiluminescent systems. As set forth in Applicant's specification at page 17, lines 23-28, "chemiluminescence refers to a chemical reaction in which energy is specifically channeled to a molecule causing it to become electronically excited and subsequently to release a photon thereby emitting visible light... Thus, chemiluminescence involves the direct conversion of chemical energy to light energy." (emphasis added). As set forth in Applicant's specification at page 17, lines 28 to page 18, line 2, "Bioluminescence refers to the subset of chemiluminescence reactions that involve luciferins and luciferases or the photoproteins." (emphasis added). The bioluminescent fluorescent protein

of amended claim 1 is a photoprotein that is clearly within the concept of a bioluminescent system.

Bioluminescent systems and chemiluminescent systems, although related, are clearly distinct. A bioluminescent system requires a luciferin, luciferase or a photoprotein whereas a chemiluminescent system involves a chemical reaction in which energy is channeled to a molecule causing it to excite. The bioluminescent fluorescent protein of amended claim 1 is not analogous to the chemiluminescent system of Halbritter '631.

Moreover, in view of the fact that the Halbritter '631 reference teaches that "the preferred chemiluminescent agent includes an oxalate diester which reacts with a peroxide and a fluorescer to provide the emission of light", as recited in column 2, lines 66-68 and column 3, line 1, the Halbritter '631 reference actually teaches away from using bioluminescent fluorescent proteins. Those skilled in the art will readily appreciate that the combination of a peroxide with a bioluminescent system will greatly reduce, if not completely destroy, the biological light-emitting reaction. Peroxide is a strong reducing agent which effectively destroys the surrounding oxygen. When peroxide contacts a bioluminescent component, such as a fluorescent protein, it destroys the coelenterazine necessary to allow the bioluminescent reaction to take place by destroying the oxygen. Accordingly, Halbritter '631 teaches away from the use of bioluminescent components.

The combination of Halbritter '631 and Prasher et al. does not render obvious amended claim 1, and the claims that depend therefrom. Neither Halbritter '631 nor Prasher et al. teach or suggest that a bioluminescent fluorescent protein could be used in bubbles or bubble products. Absent such a teaching or suggestion, it is submitted that claim 1 is patentable over Halbritter '631 and Prasher et al.

In view of the foregoing remarks, it is submitted that claims 1-3, 5 and 8-14 are patentable over the prior art of record. Accordingly, an early Notice of Allowance of this application is respectfully requested.

In the event that any outstanding matters remain in connection with this application, the Examiner is invited to telephone the undersigned at (412) 263-4362 to discuss such matters.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Lara Northrop', written in a cursive style.

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